

PATENT / DOCKET NO. 12964.18

Customer No.: 000027683

general inventive concept under PCT Rule 13.1 because they allegedly lack the same or corresponding special technical features. The Office action notes that Claims 1, 2 and 21 are generic.

## II. Election

Applicant hereby elects with traverse, for prosecution herein, the species of Group II, Group VI and Group XII. Since the Office action notes that the claims of Group I (Claims 1 and 2) will be examined along with the elected Groups, Applicant submits that claims 1-3, 6-15, 17 and 21 are readable on the elected Groups.

Contrary to the position set forth in the Office action, Applicant respectfully submits that the above-captioned application does not lack unity of invention under 37 C.F.R. §1.475. Specifically, according to 37 C.F.R. §1.475(a), when a group of inventions is claimed, unity of invention is fulfilled when there is a technical relationship among the inventions that involves one or more of the same or corresponding special technical features. In this context, the term "special technical features" means those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

As noted in the Office action, Claims 1-2 are drawn to compositions that include:

- A. An anti-infectious active agent that inhibits the 2C-methylerythrose-4 metabolic pathway; and
- B. A lipid metabolism inhibitor.

In respect of component B, Group II has been elected. Group II is drawn to the compositions of Group I in which the lipid metabolism inhibitor is a squalene synthetase inhibitor.

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According to the present invention, the formation of cholesterol is inhibited by the inhibition of the lipid metabolic pathway. The lipid metabolic pathway may be inhibited in different places, such as by the inhibition of the enzyme HMG-Co-A-reductase which is involved at the beginning of the pathway or by the inhibition of the enzymes prenyltransferase or squalene synthetase, which are involved at the end of the pathway. Accordingly, all the claimed compositions effect the inhibition of the lipid metabolic pathway and involve the same special technical feature, namely the inhibition of the formation of cholesterol. Consequently, all of the compositions of Groups II, III and V have the same special technical feature and therefore should be regarded as being so linked as to form a single general inventive concept under PCT Rule 13.1.

In respect of component A, Group VI has been elected. Group VI is drawn to the compositions of Group I in which the anti-infectious agent is a phosphorus containing compound.

In this regard, it is noted that the compositions of Group IX comprise a phosphorous group (see definition of Z). Therefore, the compositions of Group IX clearly do not lack unity of invention with the compositions of Group VI.

In addition, in terms of the inhibition of the 2C-methylerythrose-4 metabolic pathway (MEP), the present invention provides a composition in which component A is responsible for inhibiting the MEP pathway. By inhibiting this metabolic pathway, the formation of isopentenyl pyrophosphate and dimethyl allyl pyrophosphate, two compounds essential for the survival of the pathogens of interest, is inhibited. Accordingly, all the claimed compositions effect the inhibition of the MEP pathway and involve the same special technical feature, namely the inhibition of the formation of isopentenyl pyrophosphate and dimethyl allyl pyrophosphate.

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Consequently, all of the compositions of Groups VI, VII and IX have the same special technical feature and therefore should be regarded as being so linked as to form a single general inventive concept under PCT Rule 13.1.

In respect of the uses of the claimed compositions, Group XII has been elected. Group XII is drawn to the use of lipid metabolism inhibitors as herbicides.

The herbicidal activity of the claimed compositions is based on the simultaneous inhibition of the lipid metabolic pathway and the mevalonate independent isoprenoide pathway of the MEP pathway. While all organisms have an active lipid metabolic pathway, the MEP metabolic pathway is only present in a special defined group of organisms. Most of the eubacteria, algae, higher plants and parasitic protozoans of the strain Apicomplexa belong to this group of organisms. During phylogenesis, the MEP metabolic pathway first came into being in eubacteria. The plastids of the algae and higher plants have developed from these eubacteria wherein the MEP metabolic pathway has been functionally preserved. Also the parasites (Apicomplexa) have an organelle (the Apicoplast) similar to the plastids, which has come into being via endosymbiosis with a lower alga. This means that in combating parasitic infections one must address both antiparasitic activity and herbicidal activity. By killing the part of the parasite which developed from the algae the whole parasite is killed. A similar concept holds true for viral infections as well.

In other words, it is the nature of the infecting organism rather than the infected organism that is essential. Therefore, it is apparent that the treatment of plants as well as the treatment of human beings and animals is possible because of a single inventive concept under PCT Rule 13.1. Specifically, the single inventive concept is that by the inhibition of the MEP metabolic

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pathway, a plastide or apicoplast respectively is killed and thereby viral, bacterial, and parasitic infections may be treated and herbicidal activity may be effected.

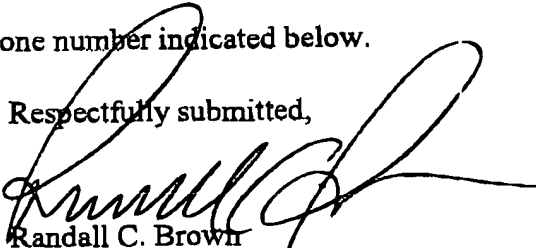
Consequently, all of the uses for the claimed compositions set forth in Groups X-XII have the same special technical feature and therefore should be regarded as being so linked as to form a single general inventive concept under PCT Rule 13.1.

In view of the foregoing remarks, it is respectfully submitted that the application contains groups of inventions which are so linked as to form a single general inventive concept under PCT Rule 13.1. Accordingly, it is requested that the unity of invention objection be withdrawn. If, however, the Examiner maintains as final the unity of invention objection, Applicant will take the position that the Examiner has admitted one species to be patentable over the other, and that any prior art must be closer to the elected species than the non-elected species to render the elected species unpatentable.

### III. Conclusion

It is believed that all matters set forth in the Office action have been addressed. Favorable consideration and an early indication of the allowability of the elected claims are respectfully requested. Should the Examiner deem that an interview with Applicant's undersigned attorney would expedite consideration of the elected claims, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

  
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